Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL QUALITY MEASURES CLEARINGHOUSE

General

Title

Cataracts: percentage of patients aged 18 years and older with a procedure of cataract surgery with IOL placement who received a comprehensive preoperative assessment of 1) dilated fundus exam; 2) axial length, corneal keratometry measurement, and method of IOL power calculation; and 3) functional or medical indication(s) for surgery prior to the cataract surgery with IOL placement within 12 months prior to cataract surgery.

Source(s)

American Academy of Ophthalmology (AAO). Eye care quality measure: cataracts: comprehensive pre-operative assessment for cataract surgery with intraocular lens (IOL) placement. San Francisco (CA): American Academy of Ophthalmology (AAO); 2015 Jan. 5 p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of patients aged 18 years and older with a procedure of cataract surgery with intraocular lens (IOL) placement who received a comprehensive preoperative assessment of 1) dilated fundus exam; 2) axial length, corneal keratometry measurement, and method of IOL power calculation; and 3) functional or medical indication(s) for surgery prior to the cataract surgery with IOL placement within 12 months prior to cataract surgery.

Rationale

1. Scientific basis for comprehensive pre-operative assessment
   In order to ensure that cataract surgery is APPROPRIATE and SAFE to perform, the operating surgeon

is obligated to ensure 1) that there is a patient-centered problem that cataract surgery will address and improve (i.e., that there is likely to be an appropriate outcome of surgery); 2) that the safety of the procedure is maximized through appropriate intraocular lens (IOL) choice to reduce "wrong power IOL" surgery; and 3) that there are no other conditions that would impact either the appropriateness or the safety of surgery through a comprehensive eye examination, including dilation.

The purpose of the comprehensive evaluation of a patient whose chief complaint might be related to a cataract is to determine the presence of a cataract, confirm that a cataract is a significant factor related to the visual impairment and symptoms described by the patient, and exclude or identify other ocular or systemic conditions that might contribute to visual impairment or affect the cataract surgical plan or ultimate outcome.

During the preoperative evaluation, other ocular conditions could be found in the course of fundus evaluation that would lead to identification of possible contraindications for surgery:

Surgery for a visually impairing cataract should not be performed under the following circumstances (American Academy of Ophthalmology [AAO], 2011):

- Eyeglasses or visual aids provide vision that meets the patient's needs.
- Surgery will not improve visual function.
- The patient cannot safely undergo surgery because of coexisting medical or ocular conditions.
- Appropriate postoperative care cannot be arranged.

The surgeon should consider the patient's individual desires and needs in selecting an appropriate postoperative refractive target. The axial length can be measured by A-scan ultrasonography using either an applanation (contact) or an immersion (noncontact) technique. Biometry measurement for both eyes is advisable, even if surgery is not planned for the other eye. Formulas for calculating IOL power rely on keratometry to determine the net refractive contribution of the cornea. These measurements can be obtained through either manual or automated keratometry, or through corneal topography. Latest generation lens calculation formulas should be used in the IOL selection process (AAO, 2011).

2. Evidence of gap in care
   Results from the Cataract Appropriateness Project from RAND (Lee et al., 1993) and additional studies for Agency for Healthcare Research and Quality (AHRQ) at RAND suggest that the gap for a comprehensive pre-operative assessment range from 10 to 30+%.

The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure:

The initial physical examination should include visual acuity, refraction, ocular alignment and motility, pupil reactivity and function, intraocular pressure (IOP) measurement, external examination, slit-lamp biomicroscopy, evaluation of the fundus through dilated pupil, assessment of general and mental health (AAO, 2011).

Achieving the targeted postoperative refraction requires measuring axial length accurately, determining corneal power, and using the most appropriate IOL power formula (AAO, 2011).

The primary indication for surgery is visual function that no longer meets the patient's needs and for which cataract surgery provides a reasonable likelihood of improved vision. *Functional indications* for surgery include documentation that a patient is experiencing difficulty with activities of daily living, such as reading, walking, driving, and performing other visual tasks. This may also include symptoms of anisometropia, glare, starbursts or color vision abnormalities (AAO, 2011).

Medical indications for surgery include documentation that the presence of the cataract is contributing to disease (such as primary angle closure) or that removal is necessary for adequate visualization of the fundus. Such medical conditions for a cataract removal include the following:

- Clinically significant anisometropia in the presence of a cataract.
- The lens opacity interferes with optimal diagnosis or management of posterior segment conditions.
- The lens causes inflammation (phacolysis, phacoanaphylaxis).
- The lens induces angle closure (phacomorphic or phacotopic). (AAO, 2011)

Evidence for Rationale

American Academy of Ophthalmology (AAO). Eye care quality measure: cataracts: comprehensive pre-

operative assessment for cataract surgery with intraocular lens (IOL) placement. San Francisco (CA): American Academy of Ophthalmology (AAO); 2015 Jan. 5 p.

American Academy of Ophthalmology (AAO). Preferred practice patterns. Cataract in adult eye. San Francisco (CA): American Academy of Ophthalmology (AAO); 2011.

Lee P, Kamberg C, Hilborne LH, Massanari RM, Kahan JP, Park RE, Carter CV, Brook RH, Tobacman J. Cataract surgery: a literature review and ratings of appropriateness and cruciality. Santa Monica (CA): RAND Corporation; 1993.

Primary Health Components

Cataract surgery; intraocular lens (IOL) placement; preoperative assessment; dilated fundus exam; axial length; corneal keratometry measurement; IOL power calculation; functional or medical indication(s) for surgery

Denominator Description

All patients aged 18 years and older who had cataract surgery with intraocular lens (IOL) placement (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Patients who received a comprehensive preoperative assessment of 1) dilated fundus exam; 2) axial length, corneal keratometry measurement and method of intraocular lens (IOL) power calculation; and 3) functional or medical indication(s) for surgery prior to the cataract surgery with IOL placement within 12 months prior to cataract surgery (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

Unspecified

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Ambulatory Procedure/Imaging Center

Hospital Outpatient

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Individual Clinicians or Public Health Professionals

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Age greater than or equal to 18 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality

Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Data Collection for the Measure

Case Finding Period

Unspecified

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Patient/Individual (Consumer) Characteristic

Therapeutic Intervention

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions
All patients aged 18 years and older who had cataract surgery with intraocular lens (IOL) placement

Note: Refer to the original measure documentation for Current Procedural Terminology (CPT) codes.

Exclusions
None

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions
Patients who received a comprehensive preoperative assessment of 1) dilated fundus exam; 2) axial length, corneal keratometry measurement and method of intraocular lens (IOL) power calculation; and 3)

functional or medical indication(s) for surgery prior to the cataract surgery with IOL placement within 12 months prior to cataract surgery

Note: Refer to the original measure documentation for Current Procedural Terminology (CPT) codes.

Exclusions
Unspecified

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

Cataracts: comprehensive pre-operative assessment for cataract surgery with intraocular lens (IOL) placement.

Measure Collection Name

Eye Care Quality Measures

Submitter

American Academy of Ophthalmology - Medical Specialty Society

Developer

American Academy of Ophthalmology - Medical Specialty Society

Funding Source(s)

American Academy of Ophthalmology (AAO)

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Financial Disclosures/Other Potential Conflicts of Interest

None

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 Jan

Measure Maintenance

Reviewed and updated if appropriate on an annual cycle

Date of Next Anticipated Revision

2016

Measure Status

This is the current release of the measure.

This measure updates a previous version: American Academy of Ophthalmology, Physician Consortium for Performance Improvement®, National Committee for Quality Assurance. Eye care physician performance measurement set. Chicago (IL): American Medical Association (AMA); 2010 Sep. 35 p.

The measure developer reaffirmed the currency of this measure in December 2015.

Measure Availability

Source not available electronically.

For more information, contact the American Academy of Ophthalmology (AAO) at 655 Beach Street, San Francisco, CA 94109; Phone: 415-561-8500; Fax: 415-561-8533; Web site: www.aao.org .

NQMC Status

This NQMC summary was completed by ECRI Institute on February 13, 2008. The information was verified by the measure developer on April 22, 2008.

This NQMC summary was retrofitted into the new template on June 3, 2011.

This NQMC summary was edited by ECRI Institute on April 27, 2012.

This NQMC summary was updated by ECRI Institute on July 2, 2015. The information was verified by the measure developer on July 13, 2015.

The information was reaffirmed by the measure developer on December 16, 2015.

Copyright Statement

Production

Source(s)

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